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Plaintiff Worlds, Inc. (“Worlds”) submits this brief responding to Defendants’ Opening Claim Construction Brief.

I. INTRODUCTION

A. Patent Claims Are Not Limited to a Supposed “Purpose”

The lynchpin of defendants’ arguments is that the patented invention had a narrow and discrete “purpose,” and accordingly that the asserted claims should be circumscribed by hyper-specific embodiments serving that purpose. Defendants persist in this argument despite the fact that the claim language clearly and properly extends beyond any particular embodiment described in the specification.

It is beyond question that limiting claims pursuant to an embodiment described in the specification is categorically impermissible. According to the Federal Circuit, doing so is “one of the cardinal sins of patent law — reading a limitation from the written description into the claims.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1320 (Fed. Cir. 2005) (internal quotation marks omitted). Yet that is exactly what defendants urge the Court to do.

To divert attention from their “cardinal sin,” accused infringers often frame arguments in terms of the supposed “purpose” of the invention — as if an invention can solve only one problem and always can be characterized as having a single purpose. Here, Defendants also follow this well-worn path, ignoring the fact that the Federal Circuit repeatedly has declared it to be a very dead end. As the Federal Circuit has explained, “it is generally not appropriate ‘to limit claim language to exclude particular devices because they do not serve a perceived “purpose” of the invention.’” *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1325 (Fed. Cir. 2008). Even so, that is exactly what Defendants are seeking to do.

B. Defendants Mischaracterize the Problem Addressed by the Claims

Several of Defendants' proposed constructions are based on Defendants' contention that the Worlds Patents disclose an invention that necessarily caps the number of avatars at a "set maximum number." Defendants' position is flat wrong.

In reality, the Worlds Patents generally describe a system and method for implementing a highly scalable, client-server architecture that facilitates the efficient interaction of users in a three-dimensional, graphical, multi-user, interactive virtual environment. (*See, e.g.*, '690 Patent at 1:24-42.) For example, the Worlds Patents explain that "where a client-server system is used for real-time exchange of information, such as a distributed virtual reality network where users at client machines visually and aurally interact with other users at other client machines, communication is much more difficult, especially where the information is high-bandwidth data such as audio streams, graphic images and image streams." (*id.* at 1:42-48.) Thus, in game playing "the positions and actions of each user need to be communicated between all the players to inform each client of the state changes (position, actions, etc.) which occurred at the other clients." (*id.* at 1:49-53.)

Some earlier game systems used a "broadcast" method to communicate position information to clients. In true broadcasting, *one message* is sent and *all* clients listen for it. (*See, e.g., id.* at 1:56-65.) It became clear, however, that the broadcast method would prove inadequate for modern gaming and chatting software that employed advanced graphics and facilitated the interaction of a critical mass of users. Among other shortfalls, the broadcast method was unable to deliver updates to all network topologies and could not deliver updates to non-participating clients. (*See, e.g., id.* at 1:65-2:3.) Furthermore, the broadcast method was ill-suited to online multiplayer games and chatting platforms, which involved potentially vast

networks, enormous numbers of avatars, and data loads that stretched beyond the capabilities of servers, clients, and network connections. (*Id.* at 2:4-16.)

To address the problem of communicating the positions and actions of each user to all of the other clients in the system, as well as to avoid the problems associated with broadcast messaging, the Worlds Patents disclose an invention that enables a client and associated server to efficiently filter the number of visible avatars using many criteria, including proximity and position information, user identification numbers, player movements, player-to-player interactive features, participant conditions, and other filtering variables. (*See, e.g., id.* at 19:32–20:2 (Claims 1–5).) The Worlds Patents further disclose an embodiment of a system and method for communicating position and state information to “neighboring” users who comprise a set of “less than all” the users in the virtual world:

In a preferred embodiment a plurality of users interact in the three-dimensional, computer-generated graphical space where each user executes a client process to view a virtual world from the perspective of that user. The virtual world shows avatars representing the other users who are neighbors of the user viewing the virtual world. In order that the view can be updated to reflect the motion of the remote user's avatars, motion, information is transmitted to a central server process which provides positions updates to client processes for neighbors of the user at that client process.

(*id.* at 2:26-36). To determine which neighboring users to display, the Worlds Patents do not myopically select a set maximum number of users, as Defendants now suggest. Rather, the client and server of the Worlds Patents consider multiple other factors, such as those stated above, and whether avatars have obstructed views, have moved or teleported, or whether computing resources are sufficient. (*See, e.g.,* ‘690 Patent at 6:1-5, 7:42-45, 13:42-45, 13:30-32, 14:41-46; ‘501 Patent at 19:20-38 (Claims 1); ‘998 Patent 19:11-30 (Claim 1), 20:17-38 (Claims 11-15)). The Worlds Patents also disclose several other important inventions. For example, the

patents describe how software programs can efficiently enable the creation and customization of avatars, teleportation of users, switching of views, and implement other key features that enhance user experiences. (*See, e.g.*, '501 Patent at 19:25–26 (Claim 1), 19:61–64 (Claim 7), 20:20–21 (Claim 12); '998 Patent at 19:25–30 (Claim 1).)

In sum, although Defendants are correct that the Worlds Patents disclose a solution to the “crowd control problem,” Defendants are wrong that “crowd control” necessitates controlling a crowd by capping the number of displayable users at a set maximum number. To the contrary, “crowd control” necessitates only that a crowd be controlled by filtering information using some means. A maximum number criterion is one way to accomplish that filtering, but it is far from the only way.

In any event, even if the inventors had intended their invention to serve a specific purpose (which they did not) and be bound categorically by a strict maximum-number limitation (which they also did not), Defendants *still* would have no argument that the disclosed invention should be limited according to a narrow purpose. The Worlds Patents speak for themselves. As the Federal Circuit has observed, because changes in claim scope may “have occurred via amendment during the prosecution process, *it is not unusual for there to be a significant difference between what an inventor thinks his patented invention is and what the ultimate scope of the claims is after allowance by the PTO.*” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 985 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370, (1996). That is why it is necessary to focus on what is actually required by the language of the Worlds claims, as opposed to what the specification might suggest about the purpose of the invention. “The written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims.” *Id.* at 980.

The Court should reject Defendants' attempts to rewrite, rather than to construe, the claim language.

II. DISCUSSION OF DISPUTED TERMS

A. "position of less than all of the other users' avatars"

Defendants' arguments about a "position of less than all of the other users' avatars" wrongly assume that this easily understood term should be construed to import new limitations, requiring not only (1) that the client receive position data for "less than the total number of other users' avatars" but also (2) that the client receive position data for fewer than an undefined "set maximum number" of avatars. Defendants are wrong on multiple fronts.

To begin, Defendants incorrectly say at 13 that "the specification of the patents-in-suit consistently, and without exception, discloses a client-server system in which the server sends a client positions [sic] for up to a set maximum number of the other users' avatars." But the specification *never* uses the phrase "up to a set maximum number of other users' avatars," *never* says "a set maximum number" is the determining factor for positions the server sends, and *never* focuses on a "set maximum number" when describing how the server sends client positions. Rather, the Worlds specification discloses a system and method that considers "each neighboring avatar," "locations, orientations and avatar image pointers," the "avatars nearest to the location of that user's avatar," the "nearest neighboring remote avatars," and the "closest remote avatars." Each of these criteria focuses on the proximity, closeness, orientation, or position of users, as opposed to some set maximum number of those users.

- "In any case, remote avatar position table 112 contains an *entry for each neighboring avatar*. That entry indicates where the remote avatar is (*its position*), *its orientation*, a pointer to an avatar image, and possible other data about the avatar such as its user's ID and name. " ('690 Patent at 6:1-5.)

- “In rendering a view, client 60 requests the *locations, orientations and avatar image pointers of neighboring remote avatars* from server 61 and the server's responses are stored in remote avatar position table 112.” (*id.* at 7:42-45.)
- “Server 61 addresses this problem by maintaining, for each user, a list of the N *avatars nearest to the location* of that user's avatar.” (*id.* at 13:30-32.)
- “User object 64 also maintains a list of the N *nearest neighboring remote avatars* (i.e., avatars other than the avatar for the user object's client/user) in the room.” (*id.* at 14:41-46.)
- “This list is used to notify the user object's client 60 regarding changes in the N *closest remote avatars* and their locations in the room.” (*id.* at 6:1-5.)¹

The approach disclosed and claimed in the Worlds Patents makes complete sense, because in a multi-user, three-dimensional, interactive virtual world with multiple rooms, doorways, hallways, and entranceways, the proximity, position, and orientation of one user is the key to determining which other users should be displayed to him or her. For example, the Worlds specification explains that, “In some cases, a user can see another user's avatar, but that other user cannot see the first user's avatar,” because “visibility is not symmetric.” (*id.* at 13:44-46.) For this reason, the specification explains that “server 61 determines which N avatars are closest to A's avatar, based on which room of the world A's avatar is in and the coordinates of the avatars.” (*id.* at 5:45-48.) Thus, the proximity of other users is an extremely important factor for “receiving a position of less than all of the other users' avatars from the server process.” And of course, a proximity criterion is entirely independent of any hard-coded maximum number filter. Defendants completely ignore this significant aspect of the patents.

Defendants also ignore numerous other factors the client and server can use to display less than all of the avatars, such as conditions set to filter out other avatars (*id.* at 5:65-67), whether other avatars have obstructed views (*id.* at 7:4-6), whether an avatar has moved or

¹ All emphases in this brief are added.
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teleported (*id.* at 13:4-7), whether additional crowd control features should apply (*id.* at 11:34-39), whether computing resources are available to the local user display ('998 Claim 13), and whether the local user made a selection regarding remote user avatars ('998 Claims 14-15).

Tellingly, Defendants say at 13 that “if a client receives positions for 999 out of 1000 other users, this would literally constitute receiving a position of ‘less than all of the other users,’ even though the client has received positions for the vast majority of other users.” That is exactly right, however. In fact, with their rhetoric, Defendants acknowledge that they know full well what the phrase “less than all” means in the clear context of the asserted claims, and that no construction is needed here. Defendants wrongly assume that the specification of the Worlds Patents somehow disclaims or excludes receiving positions for the vast majority of other users. The specification does no such thing. To the contrary, as Defendants themselves acknowledge, a “vast majority of other users” is still “less than the total number of other users’ avatars,” as defendants propose, and is still “less than all of the other users’ avatars,” as the Worlds Patents disclose and claim.

Nothing in the Worlds specification excludes or disclaims a system that sends positions of “the vast majority of the other users.” Rather, the specification explains that “If server 61 sets a very high value for N, then the limit set by client 60 is the only controlling factor,” (*id.* at 5:57-58), but in some instances “client 60 has not limited the view to less than N avatars.” (*id.* at 5:51-52). Meaning, the server can “set a very high value for N,” despite Defendants musings to the contrary, and two, the client need not limit the view to less than N avatars. Thus, the specification literally does disclose receiving positions for the vast majority of other users when it claims “receiving a position of less than all of the other user’s avatars.” Even with an ability to display the vast majority of users, the scope of the asserted claims are not too broad, as

Defendants contend, because those claims are further defined (or confined) by proximity, orientation, filtering conditions, computing resources, user selections, and other filtering factors disclosed in the Worlds Patents and claims.

Defendants tortured attempt to insert the limiting phrase “set maximum number” into the claim language would also inject unnecessary confusion into the claim terms. As Defendants themselves appear to acknowledge, every system has its own unique limitations. And those limitations may change based on the capacity or capabilities of that particular system. When Defendants insert the phrase “a set maximum number,” their insertion implies that the number is either static across multiple devices, remains the same across multiple clients, or is a number set in stone irrespective of the clients’ (or technology’s) evolving capabilities or capacity over time. The term “less than all” does not create the same ambiguities, and does not import the same rigidities. To the contrary, the term “less than all” allows the person of ordinary skill in the art to understand the variable nature of the claims that use that terminology and the flexibility it attempts to achieve for multi-user, multi-device, virtual world systems.

Finally, Defendants incorrectly say at 14 that a construction that gives the phrase “less than all” a plain meaning, would “result in overly broad claims that eviscerates the purpose of the disclosed invention.” That cannot be correct. First, nothing in the Worlds specification or claims says the “purpose” of the Worlds Patents is to communicate position information for “up to a set maximum number” of other users. Second, it is not this Court’s task to limit claim language to a perceived “purpose” of the invention. As the Federal Circuit has explained, “it is generally not appropriate ‘to limit claim language to exclude particular devices because they do not serve a perceived “purpose” of the invention.’” *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1325 (Fed. Cir. 2008); *see also E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 (Fed.

Cir. 2003) (“The court’s task is not to limit claim language to exclude particular devices because they do not serve a perceived ‘purpose’ of the invention. Rather, the district court’s function is to interpret claims according to their plain language unless the patentee has chosen to be his own lexicographer in the specification or has clearly disclaimed coverage during prosecution.”). Defendants’ limitation-laden constructions should be rejected.

B. “determining, from the received positions, [a/the] set of the other users’ avatars that are to be displayed”

Defendants’ proposed construction materially alters the meaning of the claim in two ways. First, Defendants replace the word “determining” with the word “selecting.” Second, defendants inelegantly inject the limiting phrase “a set maximum number” into the claim. Defendants’ construction therefore does not comport with the intrinsic evidence and should be rejected.

Defendants incorrectly say at 18 that, “based on the description in the specification, ‘determining’ must refer to the client selecting a set consisting of up to a set maximum number of the other users’ avatars to be displayed based on the received positions.” In support, Defendants blindly point to the “only disclosure in the specification” they could find where the word “select” is used near the word “position.” But Defendants ignore the entire context of their “only” disclosure, which says:

remote avatar position table 112 contains an entry for each neighboring avatar. That entry indicates where the remote avatar is (its position), its orientation, a pointer to an avatar image, and possible other data about the avatar such as its user’s ID and name. The position of the avatar is needed for rendering the avatar in the correct place. Where N’ is less than N, the client also uses position data to select N’ avatars from the N avatars provided by the server.

(*id.* at 6:1-8.) Based on the disclosure in context, Defendants ignore the multiple data points — position, orientation, image pointers, user ID, name, and other data — that the client analyzes to

determine which avatars to display. Defendants also ignore the fact that “selection” occurs only in a single instance, “[w]here N’ is less than N,” but does not and need not occur when N’ is equal to or greater than N. Even in this single instance, Defendants ignore that the specification tells us “the client *also uses* position data to select N’ avatars.” By using the words “also uses,” the specification explains that the client must consider other data, in addition to position data, when determining a set of other users’ avatars to display. For example, the specification describes multiple data points the client must consider, such as conditions set to filter out other avatars, whether other avatars have obstructed views, whether an avatar has moved or teleported, or whether crowd control features should apply.

- “user A might have a way to *filter out avatars on other variables in addition to proximity*, such as user ID.” (‘690 Patent at 5:65-67.)
- “Client 60 uses the locations of walls and other objects to *determine* how A’s avatar’s position is constrained.” (*id.* at 7:4-6.)
- “When client 60 receives a TeleportCommand or AppearCommand for an avatar that is appearing, it *must first determine* if it currently has information for the specified object cached.” (*id.* at 13:4-7.)
- “From user A’s point of view, *avatars will appear and disappear from A’s view in a number of circumstances*. For example, avatars enter and leave rooms and move in and out of visual range (as handled by crowd control rules described below). Avatars also teleport from room to room, which is different than moving in and out of rooms.” (*id.* 11:34-39.)

Accordingly, Defendants’ construction makes no sense in the full context of the specification and should be rejected.

Defendants’ next improper proposal is to insert a restrictive “set maximum number” limitation into the claim language. In support, Defendants incorrectly say at 19 that “claim 4 confirms that the step of ‘determining’ in claim 1 refers to the process of selecting up to a set maximum number (*i.e.*, N’) by the client.” Defendants have it backwards. Claim 4 is dependent

on claim 1. In *RF Delaware, Inc. v. Pac. Keystone Technology, Inc.*, 326 F.3d 1255, 1264 (Fed. Cir. 2003), the Federal Circuit explained that “An independent claim usually covers a scope broader than the preferred embodiment, especially if the dependent claims recite the precise scope of the preferred embodiment.” *See also* 35 U.S.C. § 112, ¶ 4 (2000) (“a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed.”); *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001) (“Claim differentiation . . . is clearly applicable when there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, and that limitation is the only meaningful difference between the two claims.”).

Here, Claim 1 appropriately covers a scope broader than dependent Claim 4, and Claim 4 adds the narrowing maximum-number limitation that defendants improperly seek to import — backwards — into Claim 1. But nothing in the specification or claims even suggests that the broader term, “set of the other users’ avatars,” used in Claim 1, should be narrowed to the “maximum number of the other users’ avatars” limitation, as expressed in dependent Claim 4. As the Federal Circuit explained in *Phillips*, 415 F.3d at 1315, “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” Defendants present nothing to overcome that presumption, and there is no reasonable basis for importing a maximum-number limitation into Claim 1. Defendants’ proposed construction must be rejected.

Lacking support for their construction, Defendants incorrectly say at 19 that “in its submissions to the USPTO, the applicants equated the meaning of ‘determining’ with identifying up to a maximum number, *i.e.*, a limit, of the other users’ avatars to display.” Defendants are wrong on multiple counts. First, Defendants do not even reference the prosecution history of the

‘690 patent or any other asserted Worlds Patent. Second, Defendants do not use the same claim language at issue here. Third, the ambiguous statement that Claim 8 of the (unasserted) ‘045 patent “has been amended to clarify that each target client process limits the number of avatars displayed in accordance with the available processing power of the target client,” does nothing to limit, abridge, or disclaim the scope of Claim 1 of the ‘690 patent; and indeed, that file history language does not even suggest a “set maximum number” limitation. While “clear and unmistakable prosecution arguments limiting the meaning of a claim term” may be used to limit a claim term’s ordinary meaning, an ambiguous statement has no such effect. *SanDisk Corp. v. Memorex Prods., Inc.*, 415 F.3d 1278, 1286 (Fed. Cir. 2005).

Moreover, it is unclear what effect, if any, the ambiguous statement regarding proposed Claim 8 of the ‘045 patent would or possibly could have on the scope of Claim 1 of the ‘690 patent. The statement does not say the claim should be limited by a set maximum number limitation. The statement also does not disclaim inventions that omit a set maximum number limitation. Further, the statement does not even use the words “set maximum number.” Nor does the statement suggest the word “determining” should be interpreted to mean “selecting.” To the contrary, the statement merely suggests that “the available processing power of the target client” is another factor the client must consider when determining which avatars to display. (*Cf.* ‘998 Claim 13; “programmed to limit the number of remote user avatars . . . based on computing resources available to the local user graphic display”).

In sum, *nothing* suggests that the claim term at issue here — “determining, from the received positions, a set of the other users’ avatars that are to be displayed” — has any other meaning than its plain and ordinary meaning. As the Federal Circuit explained in *Omega Engineering, Inc., v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003), “the alleged

disavowing statements [must] be both so clear as to show reasonable clarity and deliberateness and so unmistakable as to be unambiguous evidence of disclaimer.” *See also SanDisk*, 415 F.3d at 1287 (“There is no ‘clear and unmistakable’ disclaimer if a prosecution argument is subject to more than one reasonable interpretation, one of which is consistent with a proffered meaning of the disputed term.”) *Id.* at 1287. The Court should reject Defendants’ legally and factually baseless arguments and hold that the straightforward phrases above need no construction.

C. “condition” / “participant condition

The terms “condition” and “participant condition” need no construction. First, and most strikingly, Defendants do not say the word “condition” is too difficult to understand — and indeed, they do not even contend that the word “condition” needs to be defined. To the contrary, Defendants admit that the word “condition” is clear on its face and, by inserting it into their proposed construction, Defendants do not attempt to construe the word “condition” at all. Thus, the parties seem to be in accord that no construction is needed. And yet, Defendants petition the court for a construction.

But instead of construing the term “condition,” Defendants attempt to rewrite the claim language. Defendants say the term “condition” should incorporate an additional undisclosed limitation to mean, narrowly, a “condition set by the client.” Worlds agrees that a condition may be set by the client and may be set by the user. However, Defendants fundamentally and improperly exclude any “condition set by the server” without pointing to any portion of the claims or specification that disclaims or disavows a “condition set by the server.” Indeed, Claim 1 of the ‘501 patent discloses that the client device receives position information “*from the server process*,” and “does not receive position information of at least some avatars that fail to satisfy a participant condition imposed on avatars.” Claim 1 does not say whether the server

process imposes the condition on other avatars, or whether the client device imposes the condition on other avatars. However, it seems logical that the server process must have the ability to impose a condition on other avatars if the server process is responsible for determining whether position information will or will not be sent. Nothing in the specification or claims precludes the server process from imposing a condition on avatars, neither should this Court.

In the alternative, Defendants contend that the term “condition” is indefinite. In support, Defendants incorrectly say “if the terms ‘participant condition’ and ‘condition’ do not mean ‘a condition set by the client,’ a person of ordinary skill in the art is truly left to wonder what types of ‘conditions’ are encompassed by the claims.” But Defendants’ proposed construction, “condition set by the client,” does not identify the range of conditions that could be imposed on avatars. Nor do Defendants explain how their rewrite of the claim language would help a person of ordinary skill in the art determine the types of conditions that may be imposed.

Whether a condition is set by the client, the server, or otherwise — one thing is clear — a person of ordinary skill in the art *and* Defendants **know** what the term “condition” means, **know** how to interpret the meaning of “condition,” and **know** the word “condition” needs no construction. Indeed, on page 22 of their brief, Defendants provide an extensive interpretation of what they say “condition” and “participant condition” mean in context of the claims. This is hardly the stuff of indefiniteness. “Where the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, . . . the claim [is] sufficiently clear to avoid invalidity on indefiniteness grounds.” *Exxon Research and Engineering Co. v. U.S.*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). Accordingly, the claims of a patent need not be “plain on their face in order to avoid invalidation due to indefiniteness.” *Id.* (“By finding claims indefinite only if reasonable efforts at claim

construction prove futile, we accord respect to the statutory presumption of patent validity and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal.” (citation omitted)).

The “statutory presumption of patent validity” is particularly powerful here, where the examiner found the term “participant condition” so plain and ordinary that he himself inserted the term into the claims just prior to allowance. *See* Ex. I. In short, there is no “clear and unmistakable” disavowal of claim scope, there is no legitimate claim of indefiniteness, and this Court should reject Defendants’ attempt to rewrite or invalidate the claims. *See Energizer Holdings v. International Trade Com’n*, 435 F.3d 1366, 1370 (Fed. Cir. 2006) (“A claim that is amenable to construction is not invalid on the ground of indefiniteness.”).

D. “programmed to limit the number of remote user avatars shown on the graphic display”

Defendants’ attempt to replace the word “limit” with the word “restrict” is indefensible. The word “restrict” does not appear even once in the ‘998 claims or specification, whereas “limit” appears over a dozen times. Defendants’ have absolutely no basis for swapping one word for the other. Indeed, the only time the specification even hints at the word “restrict” is to remind defendants that the detailed description is “illustrative and not restrictive,” and “the scope of the invention . . . should be determined with reference to the appended claims.”

The above description is *illustrative and not restrictive*. Many variations of the invention will become apparent to those of skill in the art upon review of this disclosure. *The scope of the invention* should, therefore, be determined not with reference to the above description, but instead *should be determined with reference to the appended claims* along with their full scope of equivalents.

Defendants’ construction, however, completely ignores the claims. Instead of hewing closely to the plain and ordinary meaning, Defendants blatantly attempt to jam an additional,

undisclosed maximum-number limitation into the claims. Despite Defendants' noticeably consistent pattern of inserting the words "maximum-limitation" into every conceivable claim, Defendants' construction is and still remains wrong on all counts.

Defendants are particularly wrong here. Claims 11-15 of the '998 patent are clear, precise, and easily understood. Each discloses exactly what it means, discloses exactly how it works, and explains "the first processor is programmed to limit the number of remote user avatars shown on the graphic display *based on*":

- "the *proximity* of the remote user avatars relative to the local user avatar" (Claim 11)
- "the *orientation* of the remote user avatars relative to the local user avatar" (Claim 12)
- "*computing resources* available to the local user graphic display" (Claim 13)
- "a *selection* made by the local user" (Claim 14)
- "a *selection* made by the local user" wherein "the selection is *independent of the relative position of the local avatar* and the remote user avatars not shown on the graphic display" (Claim 15)

Everything in these claims suggests that the "limit" applies in the express manner disclosed. Nothing in these claims suggests an additional "maximum-number" limitation is necessary. This Court should reject Defendants' attempt to import extraneous limitations and find no construction is needed.

This Court should also reject defendants' false and incorrect argument at 27 that "Worlds' proposal that this term need not be construed is simply an invitation for Worlds to argue infringement based on an interpretation of the claims that is inconsistent with the ordinary meaning." Defendants are wrong on the facts and wrong on the law. Worlds' construction is entirely consistent with the plain and ordinary meaning of the claims — especially when those claims tell a person of ordinary skill in the art exactly what they mean. Moreover, the Federal

Circuit in *American Piledriving Equipment, Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1331 (Fed. Cir. 2011), explained that “the role of the district court in construing claims is not to redefine claim recitations or to read limitations into the claims to obviate factual questions of infringement and validity but rather to give meaning to the limitations actually contained in the claims, informed by the written description” Here, the term “programmed to limit the number of remote user avatars,” and the particular limitations that follow, are clear, precise, and unambiguous. This term needs no construction.

E. “avatar”

Defendants incorrectly say “the specification does not provide any basis for limiting the claimed ‘avatars’ to avatars that are in three-dimensional form.” Defendants are wrong. The specification makes clear that the patentees sought to limit their patent to three-dimensional virtual worlds and associated avatars. For example, the *first sentences* of the patents’ Abstract and Summary of Invention read: “The present invention provides a highly scalable architecture for a *three-dimensional* graphical, multi-user, interactive virtual world system.” (See, e.g., ’690 Patent at 2:24–26.) More specifically, elsewhere in the specification, the patentees disclosed that “Each *avatar 18 is a three dimensional figure* chosen by a user to represent the user in the virtual world.” (*Id.* at 3:11–17.) The Detailed Description further discloses that “the *avatar images are three-dimensional.*” (*Id.* at 6:9–11.) Even the claims of the ’998 and ’501 patents disclose “*each user being associated with a three dimensional avatar.*”

Defendants incorrectly say “the term ‘three-dimensional’ is used in the specification to refer to an avatar that is actually comprised of multiple two-dimensional panels.” That is false. The specification says “each avatar is a three dimensional figure,” “the avatar images are three-dimensional,” and the invention provides a “highly scalable architecture for a three-dimensional”

virtual world. A disclosure regarding a “simple embodiment” that renders “three-dimensional avatars” does not change the fact that the specification clearly and precisely limits the patent to three-dimensional avatars images. No other form of avatar is disclosed. When the “simple embodiment” for rendering “three-dimensional avatars” is disclosed, the specification makes clear that there must be *at least three panels* “with eight being a suitable number” to render a three-dimensional avatar. (See, e.g., ‘690 Patent at 6:14-17 (“In a simple embodiment, each avatar image comprises M panels (where M is greater than two with eight being a suitable number) and the i-th panel is the view of the avatar at an angle of $360 \cdot i/M$ degrees.”)) As such, the patentees expressly attempted to limit even the simplest embodiment to three-dimensional avatars.

At 28, Defendants incorrectly cite *Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006), for the proposition that “construing the term avatar to require a three-dimensional form would improperly render this language in the claims of the ‘501 and ‘998 patent superfluous.” However, *Bicon* does not stand for that proposition. In *Bicon*, the patentee argued that the claim is in no way limited by an abutment, despite the claim’s detailed description of and reference to an abutment. The Federal Circuit rejected this argument and explained:

The problem with Diro’s argument is that, because claim 5 includes a detailed description of the abutment’s physical characteristics and defines the emergence cuff in a way that depends on those physical characteristics, *the invention* that is recited in claim 5 and described in its supporting specification *can only be understood as being limited by the abutment recited in the claim*.

Id. at 950.

Here, as in *Bicon*, the avatar’s physical characteristics are defined in the specification and claims in a way that depends on a three-dimensional physical form, and thus, the invention that is

recited in the claims and described in its supporting specification can only be understood as being limited by the three-dimensional form recited in the claim. *See, e.g.*, ‘998 patent, claim 2 (“each user being associated with a three dimensional avatar”). Defendants’ backwards interpretation of *Bicon* and improper attempt to render the “three-dimensional” form superfluous, should be rejected.

F. “client process” / “server process”

To be clear, Worlds’ construction for “client process” is “a program executed, stored, or accessible on a user’s computer to provide access to a server.” Worlds’ construction for “server process” is “a program executed, stored or accessible by one or more computers that provide one or more services to users of computers across a network.” These constructions come straight out of the specification and comport with the plain meaning of “client,” “process,” and “server.”

Defendants, whether mistakenly or on purpose, incorrectly quote the specification to hide the true scope and flexibility of the term “process.” Viewed in its entirety, the portion Defendants deleted shows that a “process” could be a program stored in memory, executed by a computer, or accessible by a client or server.

A person of ordinary skill in the art of computer programming will also understand that *where a process is described* with reference to a client or server, that *process could be a program executed by a CPU* in that client or server system and the *program could be stored in a permanent memory*, 30 such as a hard drive or read-only memory (ROM), or in temporary memory, such as random access memory (RAM). A person of ordinary skill in the art of computer programming will also understand how to store, modify and access data structures *which are shown to be accessible by a client or server*.

(‘690 Patent at 4:25-35.)

Nothing in the specification requires a process to be in a rigid state of “being executed.” To the contrary, the claims and specification use the term “process” consistent with its plain and ordinary meaning: “An executable unit managed by an operating system scheduler,” Ex. O at 821 (*The IEEE Standard Dictionary of Electrical and Electronics Terms* (6th Ed. 1996)); *see also SeaChange International, Inc. v. nCube Corp.*, 115 F. Supp. 2d 473 (D. Del. 2000) (defining “processor systems” as “at least one central processing unit **capable** of running application type software, and at least one mass storage subsystem.” (emphasis added)).

Defendants apparently agree a “client process” provides access to a server. But Defendants incorrectly say at 31 that “Worlds’ proposed construction of ‘server process’ makes no mention of either a client or a server and is thus overly broad.” Defendants cite no authority, dictionary, or specification language to support this proposition. And with good reason. Numerous courts and dictionaries define server in exactly the terms Worlds proposes. *See Verizon Services Corp., et al. v. Vonage Holdings Corp., et al.*, 503 F.3d 1295 (Fed. Cir. 2007) (defining “server” as “a computer system, such as one or more computers and/or devices, that provides services to other computer systems over a network”); *Atser Research Technologies, Inc. v. Raba-Kistner Consultants Inc., et al.*, 2009 U.S. Dist. LEXIS 25294 (W.D. Tex. Feb. 27, 2009) (defining “server” as “a computer that provides services to another computer”); Ex. O at 972 (*The IEEE Standard Dictionary of Electrical and Electronics Terms* (6th Ed. 1996)) (defining “server” as “a device or computer system that is dedicated to providing specific facilities to other devices attached to the network”). No reference to a client or server within the definition of server is necessary. The Court should reject Defendants’ proposed constructions.

G. “synchronously disseminating”

The term “synchronously disseminating” is easily discernible and readily amenable to construction. Defendants contend the term “synchronously disseminating has no ordinary meaning.” Defendants are wrong. Numerous courts and dictionaries have successfully defined the terms “synchronous” and “synchronously” in a manner consistent with the claims, specification, and Worlds’ proposed construction. *The IEEE Standard Dictionary* defines the term “synchronous computer” as “A computer in which each event or operation is performed upon receipt of a signal generated by the completion of a previous event or operation, or upon availability of the system resources required by the event or operation.” Ex. O at 1075 (*The IEEE Standard Dictionary of Electrical and Electronics Terms* (6th Ed. 1996)). In *Mosaid Techs., Inc. v. Freescale Semiconductor, Inc.*, 2013 U.S. Dist. LEXIS 60866, *66 (E.D. Tex. Apr. 29, 2013), the court construed “synchronously” to mean “with coordination between components (i.e., power islands) before communication transmission begins.” In *Piersons v. Quality Archery Designs, Inc.*, 2008 U.S. Dist. LEXIS 19227, *7 (N.D.N.Y. Mar. 12, 2008), the court similarly construed “synchronously” to mean “to cause to occur at approximately the same successive instants of time so that the movements are coordinated.”

This is entirely consistent with Worlds’ construction, and entirely consistent with the claims that disclose a step of “receiving, from each client process by the server process, data indicating position of the avatar,” and then — upon receipt of the data — “disseminating less than all of the positions” so that “the particular client process can determine from the positions a set of avatars” to display. (*See, e.g.*, ‘690 Claim 9.) All of this occurs in a synchronized and coordinated manner to allow what is essentially “real-time exchange of information.” (*See, e.g.*, ‘690 Patent at 1:42-48). In light of the plain and ordinary meaning of “synchronously” and the

disclosure in Claim 9 for “operating a server to enable a plurality of users to interact” over multiple users, computers, clients processes, server processes, and communications, a person of ordinary skill in the art would readily understand that the term “synchronously disseminating” in the this context means “transmitting in a manner that is synchronized and coordinated.”²

H. “third user perspective”

Defendants incorrectly say at 35 that “[t]he specification does not shed any light on the meaning of the term ‘third user perspective.’” Defendants are wrong. The specification makes abundantly clear the term “third user perspective” means a “view from the perspective of the user.” The specification explains, “FIG. 1 is an illustration of a client screen display 10 seen by one user in the chat system,” and explains, “Each user interacts with a client machine (not shown) which produces a display similar to screen display 10, but from the perspective of the avatar for that client/user.” Meaning, screen display 10 (as depicted in FIG. 1) is a view from the perspective of the user.

The specification does not stop there; it goes on to tell us, “*Screen display 10 is the view from the perspective of a third user*, D, whose avatar is not shown since D's avatar is not within D's own view.” (*Id.* at 3:28–35.) Thus, the “third user perspective” or “perspective of a third user” is depicted by the screen display illustrated in FIG. 1, and means a “view from the perspective of the user” wherein the user cannot see his or her own avatar.

To be sure, the specification explains that “Typically, a user cannot see his or her own avatar unless the chat system allows ‘ou[t] of body’ viewing or the avatar's image is reflected in

² Defendants incorrectly say at page 33 that “the specification does not even discuss a concept that could reasonably be equated with this term.” In addition to the specification references in Worlds’ opening brief, the specification discloses “Whenever possible, server 61 uses the combined SHORTLOCCMD to update all of the visible avatars at once,” and “Rather than sending a command to each of the objects in question, a single combined command is sent to the combine object.” (‘690 patent at 12:4-22). This is yet another example of synchronized and coordinated dissemination of information across multiple clients.

a mirrored object in the virtual world.” (*Id.* at 3:26-28.) Defendants agree at 36 that “according to the specification, ‘out of body’ viewing is a view that allows a user to see his or her avatar.” Thus, the specification makes clear that a “third user perspective” corresponds to a “view from the perspective of the user,” wherein the user cannot see his or her own avatar, and an “out of body” viewing corresponds to a view or “rendering that allows the local user to view the local user avatar in the virtual world.” (*See, e.g.*, ‘998 Claim 2). This term is not indefinite.

I. “switch between a rendering in which all of a perspective view of a local user avatar of the local user is displayed and a rendering in which less than all of the perspective view is displayed”

Defendants disingenuously say “[t]he term ‘perspective view’ does not appear anywhere in the specification of the patents-in-suit.” They are mistaken. The common specification makes abundantly clear the term “perspective view” means a “view of the virtual world from the perspective of the user.” Specifically, the specification explains that “each user executes a client process to *view a virtual world from the perspective of that user*,” (’998 Patent at 2:39–44), and further explains that “[e]ach user interacts with a client machine (not shown) which produces a display similar to screen display 10, but *from the perspective of the avatar for that client/user*.” (*Id.* at 3:28-34.) By way of illustration, the specification also tells us “FIG. 1 is an illustration of a client screen display 10 seen by one user in the chat system.” (*Id.* at 3:22-23.) Thus, the specification more than sufficiently identifies (as well as illustrates) the meaning of “perspective view,” which even on its face means “view from the perspective of the user.”

In terms of the scope or area of this “perspective view,” the specification explains that “[s]creen display 10 is shown with several stationary objects (wall, floor, ceiling and clickable object 13) and two ‘avatars’ 18.” (*Id.* at 3:23-25.) Thus, when a user views the virtual world from the perspective of the user, the user not only sees other avatars, but also sees an entire field

of view with walls, floors, ceilings, and other stationary objects within the avatars line of sight. In other words, the screen display in FIG. 1 depicts “all of the perspective view of a local user avatar” because it shows the user’s entire field of view, including all the avatars and stationary objects within that user’s area of visibility. (*Cf.* ‘690 Patent at 7:4-6 (“Client 60 uses the locations of walls and other objects to determine how A’s avatar’s position is constrained.”)). By contrast, a person of ordinary skill in the art would understand the term “less than all of a perspective view” would mean something less than the entire field of view, such as a view that focuses on one particular avatar or one particular object within the user’s virtual world environment. This term is not indefinite.

III. CONCLUSION

For the foregoing reasons, this Court should reject Defendants’ proposed constructions and adopt Plaintiff’s proposed constructions.

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Respectfully submitted,

Worlds, Inc.

By its attorneys,

By: /s/Chanler A. Langham

Max L. Tribble (admitted *pro hac vice*)

mtribble@susmangodfrey.com

Brian D. Melton (admitted *pro hac vice*)

bmelton@susmangodfrey.com

Chanler Langham (*pro hac vice* pending)

clangham@susmangodfrey.com

Ryan Caughey (admitted *pro hac vice*)

rcaughey@susmangodfrey.com

SUSMAN GODFREY L.L.P.

1000 Louisiana Street, Suite 5100

Houston, Texas 77002

Telephone: (713) 651-9366

Facsimile: (713) 654-6666

Joel R. Leeman (BBO # 292070)

jleeman@sunsteinlaw.com

Meredith L. Ainbinder (BBO # 661132)

mainbinder@sunsteinlaw.com

SUNSTEIN KANN MURPHY & TIMBERS LLP

125 Summer Street

Boston, MA 02110-1618

Telephone: (617) 443-9292

Facsimile: (617) 443-0004

Attorneys for Plaintiff Worlds, Inc.

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/s/ Chanler A. Langham
Chanler A. Langham